The National Highway
Traffic Safety Administration

Strategic Plan

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DRAFT

NHTSA
People Saving People
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PEOPLE SAVING PEOPLE

On the Road to a Healthier Future

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MESSAGE FROM THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATOR

The past several decades have witnessed dramatic reductions in the number of people killed and injured on the nation's highways. This is the result of safer vehicles and highways, fundamental changes in driver behavior, and a national commitment to healthier lifestyles (including advances in medical care and shifts in health behaviors). Agency programs during this period saved more than a quarter of a million lives and $700 billion.

Traffic crashes nonetheless continue to represent a leading public health problem. Motor vehicle injuries are still the leading cause of death for ages 6 through 27 and also impose an economic penalty on the public of more than $150 billion a year.

Since issuing our original strategic plan several years ago, the agency has made a number of significant strides. We have expanded our safety partnerships, focused more attention on preventing crash injury, given a face to the human tragedy resulting from crashes, and provided tools for safety advocates to take responsibility and work with us.

This strategic plan identifies where we have been and where we are going as we continue to work on reducing carnage on the nation's highways. The model for our program design is the Haddon matrix developed by NHTSA's first administrator, a physician. We focus on pre-crash, crash, and post-crash portions of the problem, with activities relating to the people involved, the vehicle, and the environment. Specific problems are defined, and the strategy for addressing them is presented.

Internally, we will be focusing on programs that help reduce the motor vehicle injury problem and on developing our people and positioning the agency so that we will be prepared to respond as the environment changes. Externally, we are looking forward to working with all of our partners to bring about the needed changes that will result in fewer deaths and injuries on the nation's highways. We remain committed to being the world leader in developing innovative, effective traffic safety programs, serving as a technical resource for the highway safety community, and fostering a work environment that is known for its productivity and effectiveness.

Ricardo Martinez, M.D.

MISSION AND LONG TERM GOALS

MISSION

The National Highway Traffic Safety Administration's mission is to save lives, prevent injuries and reduce traffic-related health care and other economic costs. The agency develops, promotes and implements effective educational, engineering, and enforcement programs toward ending preventable tragedies and reducing economic costs associated with vehicle use and highway travel.

DEPARTMENT OF TRANSPORTATION GOALS

NHTSA is an agency of the Department of Transportation (DOT). In 1997, DOT published a new strategic plan with five goals: safety; mobility; economic growth and trade; human and natural environment; and national security. NHTSA's primary role within the Department is to improve traffic safety. NHTSA's programs make secondary contributions to DOT's mobility, economic growth and trade, and human and natural environment goals.

PUBLIC HEALTH PROBLEM

Motor vehicle injuries and fatalities are a major public health problem. More than 40,000 people are dying each year as the result of injuries received in motor vehicle crashes and more than 3 million people are injured. These deaths and injuries occur at all ages, and are particularly significant for ages 6 through 27, where they are the leading cause of death. Motor vehicle deaths are nearly half the total of all traumatic injury deaths. The large number of motor vehicle injuries place a considerable burden on the nation's health care system. It is estimated that about 20 percent of all Emergency Medical Service (EMS) calls are motor vehicle related, and persons treated in trauma centers are there largely as the result of a motor vehicle crash. This care results in a significant economic burden on society, estimated at more than $17 billion a year. Since a large portion of the injured population is young and without financial resources, the public pays a considerable portion of the cost of care, more than $4 billion a year. Since motor vehicle injuries often have long term effects, they are a leading cause of long term disability.

NHTSA'S 2008 GOAL

NHTSA, working with its partner the Federal Highway Administration (FHWA), established a goal of reducing highway fatalities and injuries 20 percent by the year 2008. This plan describes the strategies through year 2005 that NHTSA has developed to achieve this goal. These strategies, if successful, will reduce fatalities from approximately 41,900 (1996) to about 33,500 (2008) and injuries from 3,511,000 (1996) to 2,809,000 (2008). With the expected increase in travel, meeting the 2008 goal will result in a concomitant decrease of 35 percent in the fatality rate. At a time when America is searching for ways to cut health care costs, reaching these objectives would result in a $2.3 billion annual reduction in health care costs.

ACCOUNTABILITY

Since its inception, NHTSA has tracked the number of traffic fatalities and injuries and measured its performance and that of its programs against these numbers. This history, plus NHTSA's participation as a pilot agency in the Government Performance and Results Act (GPRA), led to NHTSA's being named one of only ten "exemplar" Federal agencies in the pilot program. As GPRA approaches its 5th anniversary, NHTSA continues to push the envelope in such critical areas as strategic planning, the management of change, and driving accountability deeper into the organization. This plan, associated material, and Appendix A (describing NHTSA's implementation of GPRA) are a testimonial to how the agency is managed using the principles and philosophy of GPRA.

CUSTOMERS AND PARTNERS

CUSTOMERS

NHTSA's customers are the American people. NHTSA's customers do not speak with a single voice, but with many. Everyday, from dozens of states, they call into the Auto Safety Hotline, talk with NHTSA employees, send faxes and e-mail, and write letters. They tell NHTSA what it is doing well, what it needs to do more of, and how it can do better. NHTSA views its job as not just listening but hearing. The agency uses this input to understand the current needs of customers more fully, as well as to anticipate future needs. That is one way NHTSA can innovate and better focus its resources.

This strategic plan puts into action what has been heard from customers, such as the need for safer air bags, the existence of safety defects in vehicles, and aggressive driving. The plan also demonstrates how NHTSA serves different customer segments, for example, older drivers, young children, and people with disabilities. The many voices of the customer play a fundamental role in developing the agency's strategic plans.

PARTNERS

NHTSA has used its leadership in safety to form strategic alliances with important partners. The agency has emphasized the need for enlisting new, non-traditional partners such as members and groups from the medical and allied health care professions. These partners help the agency build bridges to its customers. Partners are selected because of their unique strengths or abilities to deliver NHTSA's products and services to its customers. Approaching partnering from this perspective has produced customer benefits that are greater than would have been achieved if parties operated independently. In an environment where cost effective strategies are mandated, NHTSA's approach to partnering leverages resources and will become increasingly important for achieving its goals.

- Automobile, Truck and Trailer Rental, and Leasing Companies
- Business Community
- Consumer and Advocacy Groups
- Crash Dummy, Test Equipment, and Instrumentation Manufacturers
- Educational Community
- Federal Agencies and State and Local Governments
- Foreign Governments
- Health Care Providers and Professionals
- Insurance Industry
- Law Enforcement and Legal Community
- Media
- Motor Vehicle Administrators
- Motor Vehicle and Equipment Manufacturers
- National and International Standards Organizations
- Professional and Amateur Sports Organizations
- Professional Societies
- Public Health and Injury Control Organizations/Associations
- Research Community
- Trade Associations

ENVIRONMENT

In trying to meet its goals, NHTSA must consider many factors affecting traffic safety. Those which NHTSA management can control, such as research and regulations, are discussed in the strategy section of this plan. Those outside the control of NHTSA management are called "environmental factors." The environment is defined as the set of forces and institutions that affect NHTSA, but which are not strongly affected by it. The environment consists of powerful, fundamental forces that create opportunities and threats and shape the future strategic directions of NHTSA. NHTSA must continuously adapt its strategies to changes in the environment to achieve its goals.

NHTSA management uses environmental analysis to make informed assumptions about how environmental forces will influence the future of traffic safety. The agency has conducted extensive analysis of the environment and reviewed a similar analysis conducted by DOT. A complete discussion of the agency's analysis of the environment can be found in the NHTSA 2020 Report (which is available on the agency Home Page and from the Office of Strategic and Program Planning at 202/ 366-1574).

A summary of the assumptions used by management to make decisions about this plan are briefly described below. The factors described will influence traffic safety over the next 20 years. The factors that will influence traffic safety over the seven year planning horizon will, on balance, adversely affect traffic safety, thus requiring NHTSA to account for them by reshaping its strategic direction.

DEMOGRAPHICS

- **Population Growth:** From 1995 to 2020, the U.S. population is predicted to grow by 21 percent. Without effective safety interventions, there will be more crashes and, consequently, higher fatality and injury levels.
- **Aging of the U.S. Population:** The population of Americans over age 65 will increase by 56 percent by 2020. Special safety risks associated with older drivers, occupants and pedestrians will demand new strategies.
- **People with Disabilities:** The percentage of people with disabilities increases with age (e.g., 13.6 percent of people ages 18-44, 29.2 percent of ages 45-64, and 84.2 percent of those ages 85 or greater), thus demanding new strategies to reduce the safety risks for disabled drivers, occupants and pedestrians.
- **Large Number of Younger Drivers:** The population of drivers in the age group 16-24 will increase 19 percent by 2020. Unless effective strategies are implemented, a continued over-representation of younger drivers in traffic crashes can be expected.

TRAVEL

- **Women in the Workplace:** The number of women in the workplace has nearly doubled since 1960. As a group, women traditionally have been safe drivers. However, as they have been assimilated into work-related travel, their fatality and injury rates have begun to approach that of the overall population.
- **Congestion:** There will be an estimated 280 million registered vehicles in the United States in 2020. If driver stress resulting from this congestion leads to aggressive driving, America could see a significant increase in unsafe driving behaviors.

HEALTH CARE

- **Improvements in EMS Services and Technology:** By 2020, EMS will have evolved into a technologically advanced, community-based health management system that is fully integrated into the overall U.S. health care system. Automatic notification of vehicle crashes will facilitate more rapid response to assist victims. Crash and injury data linkages back to vehicle design will lead to significant safety improvements.

ECONOMY

- **Economic Growth:** Fueled by increasing competition, economic expansion will accelerate, creating more highway travel, increasing the risk of crashes and in turn, traffic fatalities and injuries.
- **The Global Market & Harmonization:** The global economy will intensify competition, thereby mandating the establishment of regulatory requirements and certification procedures that minimize the cost burden to vehicle manufacturers while ensuring safe vehicles for motorists worldwide.

NATURAL ENVIRONMENT

- **Vehicle Emissions:** The adverse effect of fossil fuels on the environment will increase pressure to develop vehicles that rely on energy sources less harmful to the environment. These vehicles will present new safety challenges, particularly as they are integrated into the existing fleet.

MOTOR VEHICLES

- **Demand for Safety:** The relative importance of safety in the consumer's vehicle decision-making process will continue to increase in importance.
- **Intelligent Transportation System (ITS) Technologies:** The integration of electronic technology into the safety design of vehicles will accelerate the radically changing interface between humans and vehicles and affect driver behavior.
- **Vehicle Size Compatibility:** The continued growth in light truck sales relative to passenger car sales will exacerbate the safety problems associated with multi-vehicle crashes.

GOVERNMENT

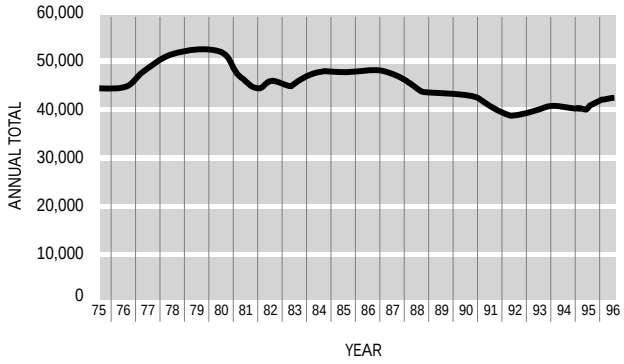
- **The Role of Governments:** Significant changes will occur in the way the Federal government interacts with state and local governments and individuals.
- **Greater Personal Responsibility:** As the Federal government's involvement in the lives of citizens dwindles, personal responsibility for safety will become paramount.

THE STATE OF TRAFFIC SAFETY

For over 25 years, NHTSA has tracked the number of traffic deaths, injuries and related statistics. The most important of these trends are presented below. Looked at in total, key trends demonstrate that the approaches used by NHTSA in the past were successful, but recently those trends have leveled off, indicating NHTSA's historic approaches must be modified to meet its 2008 goals.

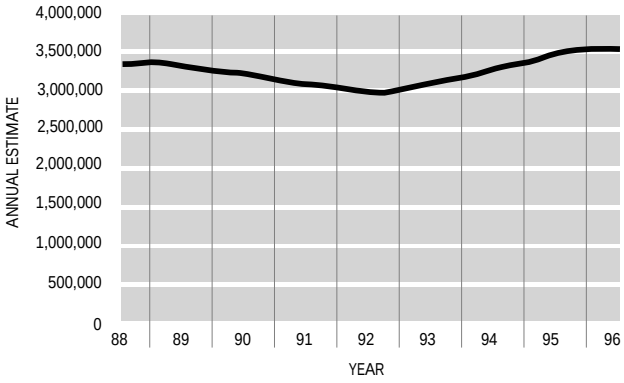
TOTAL NUMBER OF HIGHWAY-RELATED FATALITIES

➤ Since 1975, the total number of fatalities has been decreasing but at a slow rate. In 1996, 41,907 people were killed in motor vehicle traffic crashes. This accounted for 94 percent of transportation-related fatalities.



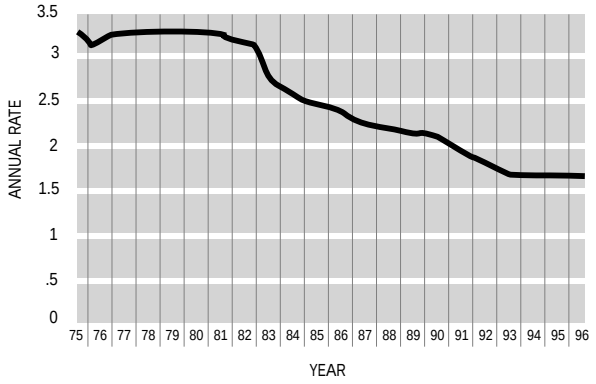
TOTAL NUMBER OF HIGHWAY-RELATED INJURIES

➤ Since 1988, the total number of injuries has increased slightly. In 1996, over 3.5 million people were injured in police-reported crashes. This accounted for 99 percent of transportation-related injuries.



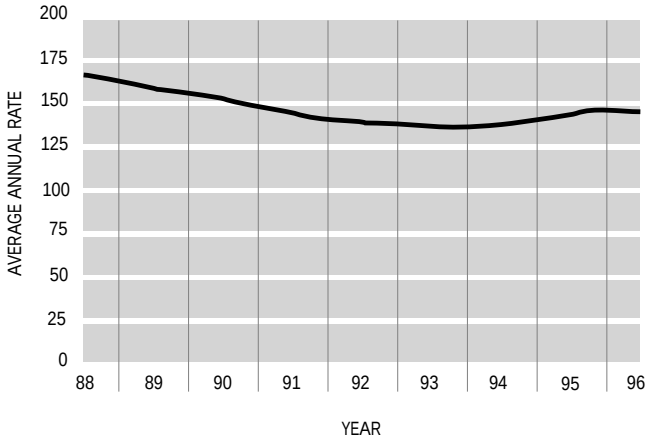
FATALITY RATE PER 100 MILLION VMT

➤ The fatality rate per 100 million vehicle miles traveled (VMT) has declined overall. Since 1992, however, the rate has remained flat at 1.7 fatalities per 100 million VMT.



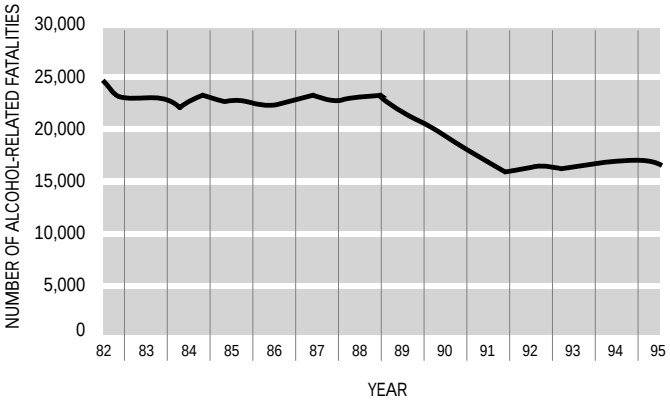
INJURY RATE PER 100 MILLION VMT

➤ The injury rate per 100 million VMT has declined from 169 in 1988 to 141 in 1996. The rate has been flat since 1992. Injuries result in societal costs of $77.7 billion, including $17 billion in health care costs.



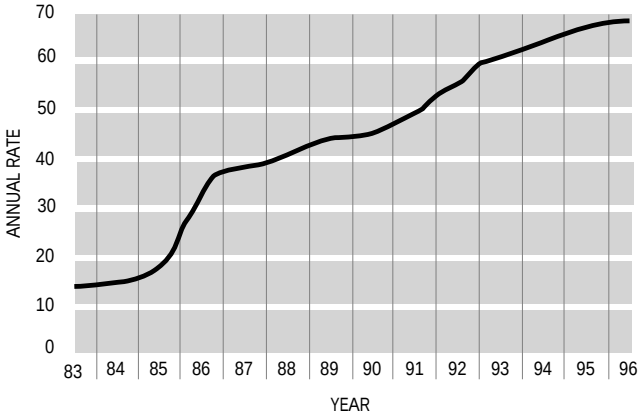
ALCOHOL

➤ Alcohol-related traffic fatalities showed an overall decline from 1982 to 1996. The number exceeded 17,000 deaths in 1996, when alcohol was involved in 40.9 percent of fatal crashes and 7 percent of all police-reported crashes.



SEAT BELTS

➤ Seat belt use increased from 14 percent in 1983 to 68 percent in 1995 and 1996. Seat belts saved an estimated 10,414 lives in 1996. However, 45 percent of passenger car occupants and 51 percent of light truck occupants involved in fatal crashes were unrestrained.



STRATEGY

Over the past 30 years, NHTSA has developed strategies that helped reduce traffic fatalities and injuries. Changing environmental conditions have recently flattened trends in traffic deaths and injuries. Nonetheless, NHTSA recently committed to a goal of reducing fatalities and injuries 20 percent by the year 2008. To achieve this aggressive goal, the agency faces the challenge of identifying new approaches for driving down fatalities and injuries.

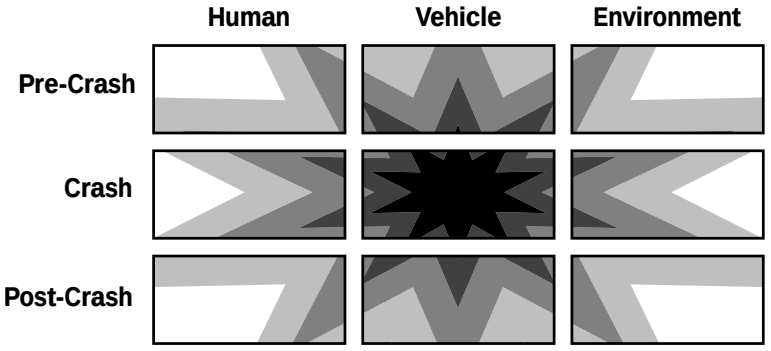
NHTSA HAS TWO BROAD STRATEGIES FOR ACHIEVING ITS GOALS BY THE YEAR 2008:

- **Identify new approaches** in the behavioral, vehicular and program delivery areas.
- **Identify organizational requirements** that must be in place for NHTSA to successfully implement the new approaches.

THE FOLLOWING SECTIONS OF THIS PLAN DESCRIBE ACTIVITIES FOR IMPLEMENTING THESE TWO STRATEGIES:

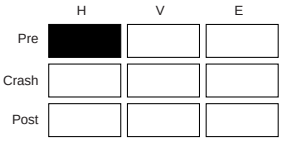
- **Safety:** Vehicular and behavioral safety problems are defined and NHTSA's strategies for solving them are identified. For NHTSA to achieve the year 2008 goals, these strategies must be successful. The problems and strategies are organized according to the Haddon Matrix, which is comprised of three time phases of the crash event plus the three areas (human, vehicle and environment) influencing each of the phases.

THE HADDON MATRIX



- **Mobility, Economic Growth and Trade, and Human and Natural Environment:** Problems and strategies related to these DOT non-safety goals are discussed. While NHTSA's focus in these problems and strategies is on safety, solutions to the problems will produce secondary outcomes that directly contribute to DOT's non-safety goals.
- **Program Delivery:** NHTSA's strategies for delivering its products and services are discussed. Cost effective program delivery strategies are increasingly important as NHTSA seeks to meet expanding safety responsibilities.
- **Corporate Management Strategies:** This section identifies key organizational areas that will enable NHTSA management to continue the agency's orderly transition to a modern, more effective organization.

SAFETY



PRE-CRASH – HUMAN

ALCOHOL AND DRUGS

Problem: Although alcohol-related fatalities have declined over the past ten years, it remains a leading cause of traffic fatalities. Young drivers between 15 and 24 years of age are involved in 27 percent of alcohol-related fatalities. Repeat offenders account for about one-third of those arrested for driving while intoxicated (DWI). The agency estimated that alcohol was involved in nearly 41 percent of fatal crashes and 7 percent of all crashes in 1996. Additionally, more than 321,000 people were injured in crashes where the police reported that alcohol was present. The agency estimates that drugs are used by approximately 18 percent of the drivers killed in crashes. Drugs are often used in combination with alcohol.

Strategy: The agency's goal is to reduce the number of alcohol-related fatalities from approximately 17,000 in 1996 to 11,000 alcohol-related traffic fatalities by the year 2005. The agency will implement programs with states, communities, and national organizations using the framework Partners in Progress: An Impaired Driving Guide to Action. The agency will strengthen its partnerships and seek out new allies to help reach the national goal. NHTSA will promote passage of effective legislation and support prevention, education and technical assistance activities for law enforcement officials, prosecutors, judges, and the public. In addition, the Presidential Initiative on Drugs, Driving, and Youth uses similar strategies to reduce impaired driving by youth.

AGGRESSIVE DRIVING AND SPEEDING

Problem: Driving behaviors likely to endanger people or property consist of risky maneuvers such as tail-gating and high speed driving. Surveys of the public indicate that aggressive driving, as well as speeding (exceeding speed limits or driving too fast for conditions) are behaviors of most concern and also among the most prevalent actions associated with fatal and injury crashes. Current understanding of these unsafe behaviors suggests that aggressive driving is associated with one-third of traffic crashes and two-thirds of the resulting fatalities. Speeding is involved in a large number of crashes and in 1996, was associated with 30 percent of fatal crashes, resulting in 12,998 deaths. Speeding was also associated with 116,000 moderate-to-severe injuries, and cost society $28.8 billion that year.

Strategy: NHTSA's goal is to reduce speeding-related fatalities 5 percent by the year 2000. The agency's strategy will focus on: integrating traffic enforcement into overall state and community law enforcement, work with FHWA on automated enforcement equipment (to increase police effectiveness while cutting their costs), and technical assistance as well as demonstrations of interventions to deter aggressive driving. Research will study the role of speeding and aggressive driving in crashes; examine new measures against speeding, aggressive driving and other unsafe driving acts; and collaborate with FHWA on setting speed limits and studying road design solutions to speeding and aggressive driving.

MOTORCYCLES

Problem: In 1996, motorcycle fatalities constituted about 5 percent of total annual traffic fatalities (2,160 fatalities). An additional 56,000 motorcyclists were injured in 1996. Per vehicle mile traveled, motorcyclists are about 16 times as likely as passenger car occupants to die in a motor vehicle traffic rash and about 4 times as likely to be injured. In addition, the percentage of impaired motorcycle operators involved in fatal crashes has not decreased over the past ten years, and the percentage of fatally injured operators who are improperly licensed remains high. Once a crash has occurred, increasing motorcycle helmet usage is the single most effective way to prevent motorcycle crash injuries. However, in 1996 helmut use rate was estimated at only 64 percent nationwide.

Strategy: NHTSA's goals are to increase helmet use to 80 percent and to reduce motorcyle-related fatalities and injuries by 5 percent by the year 2000. This will be accomplished through a comprehensive approach that works to prevent crashes, reduce injuries druing a crash, and provide rapid emergency medical services response and better treatment for crash victims. NHTSA's comprehensive approach consists of developing, testing, and urging adoption of program initiatives to support rider education programs; increasing the proportion of motorcyclists who are properly licensed; reducing the number of motorcyclists operating while impaired; and increasing the use of protective gear, including motorcycle helmets. In addition, a recently initiated motorcycle safety strategic planning effort will solicit input from traffic and motorcycle safety partners and develop a blueprint for motorcycle safety activities over the next five years. NHTSA will also increase outreach in motorcycle safety to include health and medical partners, as well as closer collaboration with law enforcement, and develop materials to specifically target these groups and involve them in motorcycle safety efforts.

PEDESTRIANS

Problem: In 1996, 5,412 pedestrians were killed and 82,000 were injured in traffic crashes in the United States. On average, a pedestrian is killed every 97 minutes and is injured every 6 minutes in a traffic crash. Pedestrian fatalities accounted for 86 percent of all nonoccupant fatalities in 1996. Most pedestrian fatalities occur in urban areas, at nonintersection locations, in normal weather conditions, and at night. Over-involved groups include males, children, and older adults. Almost half of pedestrian fatalities involve driver or pedestrian use of alcohol.

Strategy: The agency's goal is to reduce the pedestrian fatality rate to 2.00 and the injury rate to 30.6 per 100,000 population by the year 2000. In addition, DOT Secretarial goals will reduce pedestrian and bicycle injuries and fatalities by 10 percent by the year 2000. A combination of public information, enforcement, engineering, and outreach strategies will be used to reach these goals. Pedestrian research to identify effective countermeasures will focus on older, younger, and culturally diverse pedestrians, as well as those who are alcohol-impaired. Programmatic approaches will include the *Partnership for a Walkable America,* a national public-private effort committed to promoting the changes needed to make America more walkable; continued partnership with FHWA to develop training and technical assistance materials promoting pedestrian safety; and efforts to develop case studies on successful pedestrian programs and to identify strategies for increasing outreach to health care professionals, employers, and intergovernmental organizations.

BICYCLES

Problem: In 1996, 761 bicyclists were killed and an additional 59,000 were injured in motor vehicle-related crashes. Almost one-third of cyclists killed in traffic crashes were between 5 and 15 years old, and the fatality rate for this age group is nearly double the rate for all bicyclists. Alcohol involvement—either for the drive or bicyclists—was reported in more than one-third of the traffic crashes that resulted in bicyclist fatlities in 1996. Wearing a bicylce helmet is the single most effective countermeasure available to reduce head injuries and fatalities that result from bicycle crashes. However, helmet usage is very low—only about 18 percent nationally.

Strategy: NHTSA's goal is to reduce the bicyclist fatality rate to 2.9 and the inury rate to 1.89 per 100,000 population by the year 2000, and to increase bicycle helmet usage to 35 percent. The agency will use a combination of public information, legislation (for bicycle helmets), enforcement, engineering, and outreach strategies and will work closely with other federal agencies (Federal Highway Administration, Centers for Disease Control and Prevention, Consumer Product Safety Commission, Department of Education) and national organizations to ensure that these strategies are included in program development and are broadly disseminated. NHTSA will work with the *National Bicycle Safety Network,* a public-private partnership to improve bicycle safety and increase safe bicycle use; continue educational efforts like *Ride Like A Pro* with the National Football League; develop technical assistance materials such as "How to" Guide for organizing community bicycle safety events; develop and test bicycle safety events; develop and test bicycle safety materials and approaches for use with at-risk youth in urban areas; and initiate development of a training program with "Cops on Bikes" to provide them with information and skills to educate communities about bicycle safety.

FATIGUE AND INATTENTION

Problem: Sleep apnea, insomnia, narcolepsy and other sleep disorders have been associated with passenger and commercial vehicle crashes. Driver fatigue, drowsiness, and inattention are symptoms of sleep disorders. NHTSA conservatively estimates that in recent years fatigue and drowsiness have been factors in about 56,000 crashes annually, resulting in an estimated 1,550 fatalities and 40,000 injuries.

Strategy: NHTSA's strategy is to extend understanding of the problem and educate motorists about the effect of sleep deprivation on driving behavior. NHTSA is partnering with the National Center on Sleep Disorders Research at the National Institutes of Health (NIH) to identify the symptoms of sleep deprivation, high-risk groups, and a research agenda. Public education campaigns targeted at high-risk groups are underway. Over-the-counter and prescription drugs which may cause drowsiness may be studied as well. NHTSA and FHWA are cooperating in Intelligent Transportation System laboratory and field research to study driver fatigue detection devices.

DRIVER LICENSING

Problem: Road safety is threatened by unlicensed drivers who are unregulated and unaccountable. These include problem drivers whose licenses are suspended or revoked for serious violations, such as aggressive driving, alcohol impairment, and hit and run.

Strategy: Electronic data bases providing information on problem drivers can improve the decision making process for state officials. License administrators depend on fast access to accurate driver histories, including the National Driver Register's index of unsafe drivers who lose their licenses. Pinpointing problem drivers helps agencies monitor individuals' unsafe driving behaviors and is the key to successful adjudication and rehabilitation. Agency technical assistance to states and national organizations supports initiatives such as detecting fraudulent licenses, standardizing and linking state data files, exchanging driver records among governmental and private organizations, technology support for testing and licensing, and innovations such as graduated licensing for novice drivers.

OLDER DRIVER SAFETY

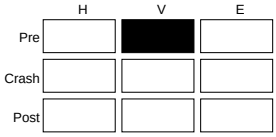
Problem: Physical dexterity and cognitive skills deteriorate with age, thus adversely affecting driving behavior. The environmental section of this plan indicated the population of older people will increase sharply, and thus a greater number of older drivers will be on the road. As a group, they are now over-involved in terms of both driver and pedestrian deaths, and the fatality rate for older drivers is16 times higher than the rate for 25-65 year-old drivers. Without effective programs, older driver death and injury levels are expected to increase.

Strategy: NHTSA's strategy is to enhance older drivers' ability to drive safely. Research is refining our understanding of medical and functional factors that influence driving behaviors and crash involvement. One agency initiative focuses on technical assistance to states in applicant screening, testing and evaluation, and other procedures for regulating older driver licensing. Model procedures will be field tested to guide licensing decisions, including innovations such as a closer monitoring of older drivers through retesting and tracking of driving history. Research will examine driver-vehicle interactions and how operational changes can enhance safe driving. Research is examining crash effects on older occupants, with the goal of increasing crash survivability. The ITS program and the new National Advanced Driving Simulator will provide research opportunities to improve crash avoidance capability for aiding older drivers. Strategies will also be developed to address issues surrounding older pedestrian safety.

YOUNG DRIVERS

Problem: High-risk behavior and driving inexperience contribute to young drivers' over-involvement in crashes. As pointed out in the environmental section, the future growth rate of young drivers will be greater than that of the total population, thus continuing their over-representation in crashes. A significant portion of young drivers in fatal crashes have invalid licenses, and their driving histories reflect license suspension or revocation. Alcohol impairment and failure to use seat belts are also frequently observed. Motor vehicle crashes remain a leading cause of death for this age group, and in 1996, crashes killed almost 3,400 young drivers and injured another 373,000.

Strategy: The agency's strategy consists of supporting state implementation of improved driver education and driver licensing procedures. Increasing seat belt use rates will improve crash protection for young drivers and occupants, and therefore education programs targeted to this population are being developed. Improving education about the effects of alcohol on driving behavior is a major priority, combined with enforcement techniques and programs to keep youth from obtaining alcohol. Legislation will be supported, including graduated licensing (i.e., progressing through stages before full licensure) and zero tolerance (i.e., establishing the legal limit of Blood Alcohol Content (BAC) of .02 for people under age 21). The agency will work with states to identify strategies to enforce minimum drinking age laws, youth-specific sanctions, new detention procedures and comprehensive community youth programs. The National Economic Crossroads Transportation Efficiency Act (NEXTEA) proposal benefits youth traffic safety by providing incentive grants to reward states that enact zero tolerance, graduated licensing, and nighttime driving restrictions.



PRE-CRASH ISSUES – VEHICLE

CRASH AVOIDANCE

Problem: Improvements in the design of existing and new vehicle systems could decrease the possibility of a driver error resulting in a collision. Driving errors are caused, for example, by inattention, obstructed vision, tailgating, unsafe passing, excessive speeding, evasive maneuvers, and failure to control the vehicle. While the majority of driver errors are human error, others are attributable to the vehicle systems. Improvements would address the interaction of a driver with the vehicle in situations where crashes are imminent or likely to occur. The problem addressed in this area is how to make changes in vehicle systems that would affect driver behavior in ways that reduce crashes.

Strategy: The agency continues to focus its crash avoidance research and regulatory activities on reducing the number of collisions by enhancing driver performance in current vehicle systems through improved visibility, vehicle braking, directional and rollover stability, as well as vehicle lighting, signaling and marking. The compatibility of driver-vehicle interfaces to improve future vehicle designs, which is discussed below as part of the Department's Intelligent Vehicle Initiative, is another major emphasis of research.

INTELLIGENT VEHICLE INITIATIVE

Problem: Approximately 75 percent of the crashes which occur annually are of three types: rear end, intersection, and road-departure collisions. In these situations, innovations are needed that enable a driver to be more aware of a potential crash and exert more control in order to avoid a collision. Part of the challenge is developing and integrating advanced sensing, on-board computer, and driver-interface technologies into vehicle safety systems.

Strategy: The agency's goal is to reduce the total number of collisions annually by approximately 1 million within the next ten to twenty years by introducing vehicle systems to avoid the three most common types of crashes. Since 1991, the agency has been undertaking research to develop tools to better understand driver-vehicle interactions; define specific collision problem areas and causal factors; develop performance guidelines for possible remedies; facilitate the commercial development of promising systems; and assess the safety of mobility and productivity enhancing systems. The rear-end collision avoidance activities are the highest priority and nearer to commercial application. The agency will shift its emphasis from narrowly focused projects to larger issues of system capability, usability, and benefits. As part of this effort, a demonstration vehicle will be developed which can be used to integrate several collision avoidance systems and for driver acceptance tests.

HEAVY TRUCKS

Problem: In 1996, a total of 5,126 fatalities and 130,000 injuries resulted from crashes involving heavy trucks. Approximately 90 percent of the fatalities and 75 percent of the injuries were to occupants of vehicles struck by a heavy truck. Key causes of these crashes are loss of control, driver fatigue, and poor visibility. Safety defects in heavy trucks also contribute to injuries and fatalities.

Strategy: NHTSA will work closely with FHWA on heavy truck safety issues and continue its research, regulatory activities and public information in areas such as braking systems, improving truck visibility, truck underride, and drowsy driver monitoring. In addition, regular review of the agency's report data system will continue to be used to identify safety-related defect trends in heavy trucks.

SAFETY ASSURANCE

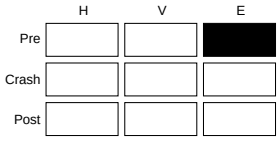
Problem: Two factors which can contribute to a traffic safety-related fatality or injury are the failure of a manufacturer to comply with an applicable Federal safety standard and the existence of a safety-related defect in motor vehicles. For these reasons, the agency conducts a variety of testing and investigations to ensure the safety of vehicles in use. Since its inception, over 14 million vehicles and 23 million equipment items have been recalled for non-compliance and over 122 million vehicles have been recalled to remedy safety defects. In addition, altering of odometers in used vehicles has led to massive consumer fraud. Although numerous agency investigations have been referred to the U.S. Department of Justice for criminal prosecution, a significant problem still remains.

Strategy: The primary goal of the Safety Assurance program is to identify motor vehicles and motor vehicle equipment in non-compliance with Federal standards and containing safety-related defects and ensure that they are corrected. The program also seeks to deter odometer fraud. In addition to testing to determine compliance with safety regulations, the agency has initiated vehicle testing in connection with new standards for depowered air bags and other occupant protection measures. Outreach to state motor vehicle agencies and other organizations will be emphasized to increase the reporting of potential defect problems through the agency's Auto Safety Hotline.

SCHOOL BUSES

Problem: An average of 35 school-age children die in school bus-related crashes each year (9 school bus occupants and 26 pedestrians). While the number of fatalities and injuries is relatively small considering that school buses travel about 4.3 billion miles annually, school bus crashes are among the most emotional traffic issues for the public.

Strategy: Safe travel for children on school buses is a high priority for the agency. All new school buses are required to meet a number of specific Federal vehicle safety standards, and these include requirements for emergency exits, seating, fuel systems, roof structure, body joint strength, flammability of interior materials, and stop signal arms. The agency will continue to work closely with its partners to cooperatively develop a policy for safely transporting preschool children in school buses. This policy can then be added to the National Guidelines for School Transportation. NHTSA will complete development of a training program for school bus drivers that will be distributed to school transportation managers. In addition, the agency will support development and implementation of community-based demonstration programs to address the high incidence of motorists illegally passing school buses stopped to load and unload children.



PRE-CRASH ISSUES - ENVIRONMENT

ROAD INFRASTRUCTURE

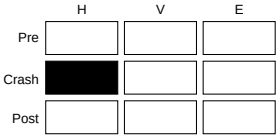
Problem: Approximately 28 percent of all traffic fatalities between 1974 and 1994 were the result of collision with fixed objects such as trees, embankments, guardrails, and utility poles. Key causal factors in these collisions are driving errors associated with excessive speeding, evasive maneuvers, and inattention.

Strategy: The agency will coordinate its activities with FHWA in priority areas such as speed management, work zone safety, run-off-road, and public outreach and education to prevent fatalities and injuries from these types of collisions. FHWA will deal with roadway design, maintenance, and operations, while NHTSA will coordinate with FHWA on problem identification, law enforcement, and outreach and education associated with road infrastructure and traffic control devices. Among the projects to be undertaken is a large scale study to determine the crash risk of speeding.

RAIL-GRADE CROSSINGS

Problem: In 1994, 615 individuals were killed and 1,961 were injured in collisions with trains at highway-rail crossings in the United States. Key causal factors in these collisions are driving task errors resulting from obstructed vision, misjudgment, violation of signals and signs, and deliberate unsafe acts.

Strategy: An intermodal task force identified six initiatives that Federal, state and local governments and railroads can take to improve rail crossing safety. They are: increased enforcement of traffic laws; rail corridor crossing safety improvement reviews; increased public education and Operation Lifesaver; safety at private crossings; data and research; and trespass prevention. NHTSA is supporting the goals of the Federal Railroad Administration (FRA) and FHWA in the expansion of relevant sections of the Model Commercial Driver License Manual and will seek to increase attention to rail crossing safety in driver testing for commercial driver licenses.



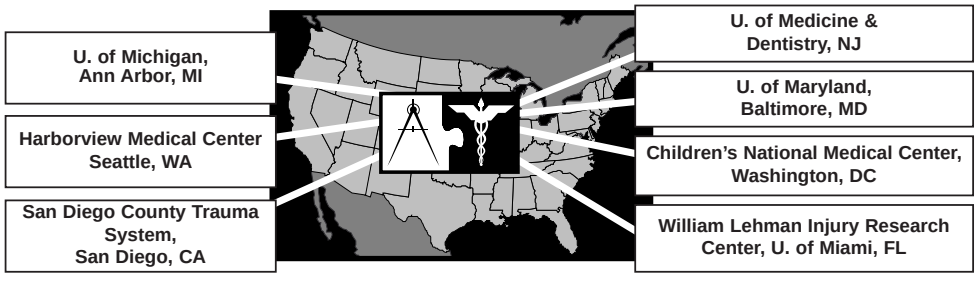
CRASH ISSUES – HUMAN

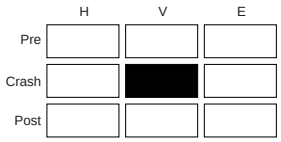
BIOMECHANICS

Problem: Biomechanics is the study of forces and motions acting on the human body and its response to them. Increasing the biomechanical understanding of the automotive injury process and developing technologies that will reduce impact injuries are critical to the agency's efforts to develop safety standards that improve vehicle crashworthiness.

Strategy: In 1997, the Department of Transportation created the National Transportation Biomechanics Research Center at NHTSA. In addition, the agency established the Crash Injury Research and Engineering Network (CIREN) to study significant crash conditions through computer-linked, hospital-based injury studies. The agency will expand its effort to define physical conditions and human consequences of real-world crashes; gain a detailed understanding of the human body experiences in a crash and their relationship to the extent and severity of resulting injuries; develop computer models of the human body that can simulate human impact response and trauma; construct dummy components and other mechanical trauma assessment devices that evaluate human risk; and develop advanced dummy computer models for virtual impact testing. A special emphasis will be placed on understanding the biomechanics of pediatric injuries and the development of three- and six-year-old child dummies as well as female dummies.

THE CRASH INJURY RESEARCH AND ENGINEERING NETWORK





CRASH ISSUES – VEHICLE

SEAT BELTS

Problem: Increasing seat belt use from its current level of 68 percent to the Presidential goal of 90 percent would prevent an estimated 5,536 fatalities and 132,670 injuries, and save $8.8 billion. However, seat belt use remains low among groups such as young males and rural road users, and the average rate of belt use has been stagnant at 68 percent. Much of this non-use is attributed to part-time belt users who perceive a low crash risk in some situations. An estimated 5 to 10 percent of the population resists using seat belts under any condition. Safety defects in seat belts also contribute to injuries and fatalities.

Strategy: Increasing use of safety belts will have such a profound effect on fatalities and injuries that President Clinton established a national objective of increasing seat belt use to 85 percent by the year 2000 and 90 percent by the year 2005 within the *Presidential Initiative for Increasing Seat Belt Use Nationwide*. The initiative involves 1) building public-private partnerships; 2) enacting strong state legislation; 3) embracing active, high-visibility law enforcement; and 4) conducting well-coordinated, effective public education. Experience indicates that when these four elements exist together, they result in increased levels of belt use. In addition, the agency will regularly review the report data systems to identify safety-related defect trends in seat belts.

CHILD SAFETY SEATS

Problem: In 1996, the number of child occupant fatalities was 644. About 50 percent of children under age 5 who died in crashes were unrestrained. Of the remaining 50 percent, 26 percent were in an adult seat belt which does not provide effective protection for most children under age 5. Use of child safety seats declines sharply with increase in the age of the child, although the reasons for this are not well understood. Others were in a child restraint system that had not been used properly. Incorrect use of locking and chest clips, inappropriate use of harness straps, and child seats facing the wrong direction are examples of seat misuse. Safety defects in child safety seats also contribute to injuries and fatalities.

Strategy: As a part of the *Presidential Initiative for Increasing Seat Belt Use Nationwide*, a goal was set to reduce the number of child occupant fatalities 15 percent by 2000 and 25 percent by 2005. The agency will establish state and regional networks to support the national campaign to increase the correct use of child safety seats and develop, produce and disseminate child passenger safety educational materials. The agency will also support regional *Moving Kids Safely* meetings, continue research to support the agency's rulemaking on child/air bag interaction and universal child restraint attachments. In addition, the agency provides assistance to states, communities, the private sector and national safety organizations and supports special programs to promote child safety seat use. In addition, the agency will regularly review the report data systems to identify safety-related defect trends in child safety seats.

ADVANCE RESTRAINT SYSTEMS

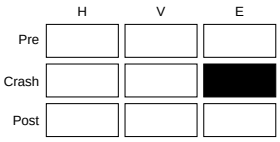
Problem: The current generation of air bags is a proven safety tool offering supplemental protection to vehicle occupants during significant crash events. Investigations have nonetheless confirmed that a relatively small number of crash situations (e.g., unrestrained or improperly restrained children and small adults) have resulted in fatality and injury.

Strategy: The agency's goal is to improve the protection offered by air bag/seat belt/child safety seat systems and dramatically reduce the number of people seriously injured by air bag deployment. NHTSA is pursuing a comprehensive strategy to improve air bag safety and facilitate introduction of advanced air bags in the near future. Actions have involved developing tests for different crash situations, testing and evaluating advanced systems, short-term regulatory actions on deployment aggressivity, on-off switches, air bag warning labels for vehicles and child seats, and expanded crash investigation. Public information and education are conducted through partnerships involving campaigns, coalition efforts and public awareness initiatives. Safety belt use, uniform child seat anchorages, correct use of child seats, and rear seating for children have also been key elements of the strategy.

CRASHWORTHINESS

Problem: Approximately 80 percent of all fatalities are due to collisions in which the front, left, and right sides of vehicles are the initial points of impact. Collisions of this type can be severe enough to threaten the integrity of vehicle structures, in turn compromising its ability to afford protection to occupants from fatal and serious injuries. Vehicle structures must be able to manage crash energy in order to prevent occupant compartment intrusion, ejection of passengers, and injuries from occupant impact with interior surfaces. Structural crash performance must also be compatible with occupant restraint systems.

Strategy: NHTSA's strategy consists of crashworthiness research, vehicle performance regulations, and consumer information on vehicle safety. Research and regulatory initiatives address advanced occupant protection in various crash modes, including frontal, side and rollover crashes (which result in the majority of deaths and injuries). Priorities include roof crush resistance, advanced restraints, rollover prevention, vehicle-to-vehicle collision compatibility, aggressivity of interior surfaces (including head impact protection), and offset frontal crash requirements. New international harmonization research on vehicle safety is underway. Consumer information on vehicle structure safety is provided through programs such as the New Car Assessment Program (NCAP), which tells the public how similar makes and models compare in safety performance during crash tests.

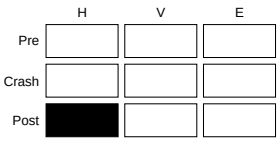


CRASH ISSUES – ENVIRONMENT

ROAD INFRASTRUCTURE

Problem: As mentioned in the pre-crash environment section, approximately 28 percent of all traffic fatalities between 1974 and 1994 were the result of collisions with fixed objects such as trees, embankments, guardrails and utility poles. Key factors in these collisions include the effects of roadway characteristics and conditions on the driver and vehicle performance and the physical properties of highway objects.

Strategy: The agency will continue to coordinate with FHWA on traffic control device issues such as installing and upgrading rumble strips, breakaway poles and roadside barriers, widening travel lanes and shoulders, and improving pavement skid resistance.

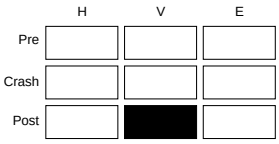


POST-CRASH ISSUES – HUMAN

ACUTE CARE AND REHABILITATION

Problem: Motor vehicle crash injuries place a significant burden on the nation's health care resources, accounting for about 4 million emergency room visits a year and about 50 percent of all trauma center admissions. Preliminary estimates show that the public pays an increasingly larger share of the costs of care as injury severity increases, with nearly half the cost of long-term rehabilitation care for people injured in motor vehicle crashes paid for by public assistance. Public assistance becomes necessary when the upper limits of insurance and personal savings have been reached.

Strategy: Acute care and rehabilitation are primarily the responsibility of the health care industry. NHTSA's goal is to engage in partnerships with members of this industry and provide them with the information they need to reinforce positive driver behavior at a time when the individual is likely to absorb these messages. This effort is accomplished via outreach to organizations such as the American Academy of Pediatrics, the American College of Emergency Physicians, and the Emergency Nurses Association. The information needed to develop the messages comes from a number of sources, including the agency's efforts in trauma research (the CIREN program) and data linkage (the Crash Outcome Data Evaluation System (CODES) program) and the agency's efforts to develop injury outcome measures, including economic costs and the Functional Capacity Index.



POST-CRASH ISSUES – VEHICLE

FIRES

Problem: Fire in a crash is often associated with a breach in the integrity of a vehicle's fuel system. Although relatively infrequent, vehicle fires can have devastating consequences on fatalities and injuries. In 1995, fire occurred in 15,000 motor vehicle crashes, or 0.1 percent of total traffic crashes. Fire was present in over 1,550 fatal crashes and 4,000 injury crashes.

Strategy: NHTSA's approach to preventing crash fire and mitigating its effects involves research and regulatory initiatives focused on vehicle fuel system crashworthiness, flammability of materials in the vehicle interior, vehicle crash and burn tests, and evaluating vehicle fluids and electrical systems. Fire suppression technology is also under consideration. Regulatory initiatives are under review which focus on modification to vehicle fuel systems to upgrade fuel containment in crashes and flammability characteristics of vehicle materials.

AUTOMATED COLLISION NOTIFICATION

Problem: Although only 24 percent of crashes occur in rural areas, they account for 59 percent of highway deaths. Documented delay in delivering emergency medical services is one of the most important reasons for the disproportionately high fatality rate for rural crash victims.

Strategy: The agency is testing and evaluating the Automated Collision Notification (ACN) program as a key element in the NHTSA Intelligent Transportation System (ITS) research and development program. The ACN initiative is designed to reduce the time between the crash and the delivery of prehospital, definitive hospital-based emergency services to the victims. This program is primarily targeting unwitnessed, single-vehicle crashes that occur in U.S. rural areas.

POST-CRASH ISSUES – ENVIRONMENT

EMERGENCY MEDICAL SERVICES

Problem: Many of the people injured in motor vehicle crashes require prehospital care and transport to a hospital emergency department or a trauma center. About 20 percent of all EMS responses are to motor vehicle crashes.

Strategy: NHTSA has developed an *EMS Agenda for the Future* in cooperation with the EMS community to provide an overall direction to the nation's EMS program. NHTSA's goal is to enhance the performance of national emergency medical systems by contributing national leadership, facilitating establishment and maintenance of national standards, and providing resource information, materials, and research on EMS systems. The EMS program develops and distributes National Standard Curricula to educate prehospital care providers, including emergency medical technicians, dispatchers and ambulance drivers. These national standards are adopted by states as the regulatory standard of care for emergency medical technicians. The program also provides support in specific technical and system support areas. Examples include training programs on data management and quality improvement, peer assessments of state EMS systems, and public awareness campaigns. The agency is also developing partnerships with the telecommunications industry to facilitate the availability of enhanced "911" service nationwide.

MOBILITY, ECONOMIC GROWTH AND NATURAL ENVIRONMENT

MOBILITY

Problem: The environmental analysis indicated the population of people with disabilities will continue to increase. People with disabilities must have access to motor vehicles. Disabled people may require special equipment and safety modifications for driving a vehicle. NHTSA's goal is to improve the access of disabled people to vehicles while not compromising safety. Disabled people requiring the use of a wheelchair are of particular concern to the agency. NHTSA estimated for 1995 that 383,000 vehicles were equipped with adaptive equipment such as hand controls, steering controls, and joy stick steering.

Strategy: NHTSA will continue research and rulemaking in several areas to enhance safe mobility for people with disabilities. The agency is considering a rulemaking action on wheelchair lifts on motor vehicles. NHTSA will continue its research to better understand the interaction of steering control devices and the deployment of air bags. The agency will focus resources on meeting the Federal laws and regulations designed to facilitate the access and use of transportation by people with disabilities.

ECONOMIC GROWTH AND TRADE

Problem: The environmental analysis noted the emergence of a global economy. However, individual countries continue to set different vehicle safety standards. The existence of many safety standards for the same equipment reduces manufacturers' abilities to achieve economies of scale, ultimately decreasing the efficiency and competitiveness of companies participating in the global economy. Reducing the efficiency and competitiveness of vehicle manufacturers means resources that could be applied to growth strategies are being unproductively invested in meeting multiple safety standards. The end result is that global economic growth is slowed and the public pays a higher price for safety than would be required if one standard were developed.

Strategy: A goal of the agency is to reduce the number of vehicle safety standards (i.e., harmonization) in the global marketplace, thus contributing to increased economic growth. The harmonization process also permits NHTSA to assess alternative safety standards used in each country and the identification of the best standard, thus improving overall vehicle safety. Safety will also be enhanced by harmonizing performance levels that meet or exceed current requirements.

HUMAN AND NATURAL ENVIRONMENT

Problem: As mentioned in the Environmental Section, the next generation of vehicle designs will be driven by the need to reduce emissions. NHTSA must ensure that the new vehicle designs meet safety standards and that their crashworthiness is not compromised by the use of light-weight material. While the weight of new electric vehicle designs is similar to a mid-size passenger car, ultra light and stiff structures and unique geometries are being employed that might affect the overall safety of the fleet. Passenger vehicle designs employing hybrid-fuel technologies are being considered that, when compared to current designs, may result in weight reduction of up to 40 percent, thus creating safety problems in multi-vehicle crashes.

Strategy: NHTSA will continue to promote fuel efficiency through the Corporate Average Fuel Economy (CAFE) standards. The agency will also complete regulatory action to establish a minimum driving range for every type of alternate-fuel vehicle design as required by the Energy Policy Act of 1992. NHTSA will continue to conduct research with FHWA and other agencies engaged in the development of next-generation vehicles and fuels, including the Partnership for a New Generation of Vehicles (PNGV). An analytical model which can be used to evaluate the crashworthiness of target vehicles in the PNGV research program will be developed. The agency will consider the use of rulemaking action to ensure occupant safety for electric passenger vehicles, particularly in the areas of braking and fuel-system integrity.

PROGRAM DELIVERY

INTRODUCTION

This section of the plan highlights the major delivery systems used by NHTSA for disseminating its safety products and services. NHTSA's ultimate customer is the American public. As one way to leverage agency resources and maximize distribution of its products and services, NHTSA has developed strategic alliances and partnerships with states, local communities, the business sector, health and medical fields, manufacturers, safety advocates and other national/local organizations having similar missions.

The majority of NHTSA's efforts, while targeted at the American public, are implemented through its partners, all of whom have unique organizational characteristics and strengths. Because of these unique characteristics and strengths, the delivery systems NHTSA uses to work with partners differ by type of partner and are highlighted next.

PUBLIC INFORMATION AND EDUCATION

Increasing awareness of the American people about safety behaviors needed to reduce traffic crashes, death and injury is the primary objective of NHTSA's PI&E communications. These safety messages are delivered to the public through the Auto Safety Hotline, public service announcements, brochures, posters, and publications. Public information is aimed at the most urgent national safety needs, for example, to encourage people to wear safety belts, place kids in child safety seats, not to drive after drinking, avoid aggressive driving actions and obey speed limits. These messages also play a key role when used as a communications strategy to complement a new primary seat belt law and increased enforcement of seat belt laws.

TECHNICAL ASSISTANCE

NHTSA is continuously working with states, communities and safety organizations on developing new products and services to make behavioral safety programs more effective. The state highway safety offices are key partners that work closely with the agency's regional offices in the process of developing and implementing new products and services. Demonstration grants and technical assistance to states and communities help to facilitate testing and evaluation of new programs. The purpose of technical assistance is to refine each new program, demonstrate its benefits to other states and thereby provide states with the latest strategies addressing national highway safety problems.

STATE GRANTS

NHTSA administers performance-based Section 402 formula grants and safety incentive grants to help states undertake statewide and local programs aimed at reducing highway fatalities and injuries. Under Section 402, states set their own goals, select appropriate programs, and as part of the performance-based agreement, evaluate and report on their results. Section 402 grants are a primary Federal means for providing NHTSA's behavioral technical assistance to states and local communities, and are based on national priorities such as alcohol, safety belts, traffic law enforcement, and roadway safety. Over the life cycle of programs begun with Section 402 grants, states and their local municipalities provide the majority of resources to continue programs beyond their start-up phase.

The incentive grants administered by NHTSA reward states for implementing laws and programs proven to be highly effective in reducing crashes, death and injury. Incentives have traditionally served as a key

mechanism for getting particularly desirable high-impact highway safety strategies into operation nationally. An expanded set of such incentives is a key feature of the President's NEXTEA proposal, covering alcohol safety, occupant protection, drugged driving and state safety data systems.

SAFE COMMUNITIES

Safe Communities is an injury prevention program currently in over 350 locations (and slated for a total of 600 sites by 1999), and is organized around the principle that local communities are best able to identify their unique safety problems, prioritize those problems, and recruit the appropriate community resources to solve the problems. NHTSA's role in the Safe Communities program is to work with state highway safety offices to encourage local communities to participate in the program, provide background material and best practices of program activities, train local leaders, and help launch the program at the community level. Community leaders first recruit local volunteers (e.g., business leaders, medical and public health professionals, safety professionals, etc) with an interest in the injury problem. Community volunteers and leaders identify the set of safety problems causing local fatalities and injuries, prioritize problems, implement programs to solve problems, and evaluate their results.

NATIONAL ORGANIZATIONS

NHTSA develops strategic alliances with national organizations (e.g., non-profit associations) that have identical or similar missions. The agency seeks to work with national organizations having strong ties to groups of people that can implement or influence the implementation of NHTSA programs and services at national and local levels. Strategic alliances offer a number of benefits to NHTSA and its ultimate customer, including leveraging the program strengths and resources of organizations with similar missions; increasing communication, understanding, and cooperation among organizations; and increasing the agency's ability to better understand and reach target populations. These benefits enable NHTSA and its partners to more cost effectively deliver safety products and services to the American public.

SAFETY PERFORMANCE STANDARDS

Automakers, safety equipment suppliers and the insurance industry are among NHTSA's partners helping to provide the public with safer vehicles. The agency's approach is to issue regulations that establish minimum performance levels for vehicle crashworthiness and crash avoidance, with the expectation that manufacturers will take steps to surpass minimum safety levels. In accomplishing its statutory requirements, NHTSA is moving beyond the role of simply being a regulator and is instead enhancing vehicle safety through techniques of voluntary standards and negotiated rulemaking. The agency's goal is to partner with industry in order to ensure faster, more effective delivery of new vehicle safety features.

CONSUMER INFORMATION

The American public needs information to help compare vehicle safety during the process of buying a new vehicle and NHTSA is responding to that need. The agency's New Car Assessment Program, for example, tells new car buyers how popular makes and models compare in providing occupant safety based on NHTSA's crash tests, thus strengthening market incentives for safer cars rather than relying solely on a regulatory approach.

SAFETY ASSURANCE

The agency's compliance testing ensures that the safety benefits of Federal safety standards reach the American public. Investigation and resolution of potential safety defects, based primarily on motorist complaints to NHTSA through the Auto Safety Hotline and the Internet, also help to reduce risks. The agency's goal is to ensure that all non-compliance and defects in motor vehicles and equipment are remedied, thus creating a safer environment for travel.

RESEARCH AND DEVELOPMENT

NHTSA's research products address driving behavior, vehicle safety, and injury mitigation. NHTSA data and research are used by other researchers, state and local governments, safety advocates and the private sector. Dissemination of research is aided through relationships with vehicle manufacturers and suppliers, research centers, medical and injury professionals, university researchers, and national and international vehicle safety organizations. Research findings are used by NHTSA and its partners to develop safety products and services for the general public. The focus of NHTSA's research is increasingly intermodal, emphasizing the need for improved safety in all surface transportation modes.

SAFETY DATA SYSTEMS

NHTSA is the leading national resource for providing the public, safety partners and all public and private entities with national data and analyses on traffic crashes, death and injury. This information is crucial for understanding safety trends, designing strategies to combat problems, and then evaluating program effectiveness.

A major goal is to acquire better information about injuries resulting from traffic crashes. NHTSA's new CIREN program creates injury data links with hospital trauma centers, a critical resource in allying medical and engineering professions to study injury prevention. The National Transportation Biomechanics Research Center serves as the central entity to develop and disseminate to our partners new insights into how crash forces affect human bodies. The agency's CODES Program is offering start-up grants to states interested in linking crash and medical treatment files. This data enhancement permits tracking the recovery of crash victims and, for the first time, shows states the true monetary cost of injuries when people fail to use occupant restraints.

CORPORATE MANAGEMENT STRATEGIES

NHTSA undertakes corporate management initiatives to enable it to more effectively and efficiently meet strategic goals. The agency is committed to aligning its activities with the management strategies outlined in the Department's 1997-2002 Strategic Plan. The six management strategies are: ONE DOT; Human Resources; Customer Service; Research and Technology; Information Technology; and Resource and Business Processes Management.

ONE DOT

The goal of ONE DOT is to create an effective decision-making architecture for the 21st Century Department of Transportation. NHTSA will contribute to this goal through its efforts to establish intermodal Safe Communities, co-locate regional offices, and take a leadership role in intermodal task forces addressing highway safety problems.

HUMAN RESOURCES

The agency seeks to develop a diverse and highly skilled workforce that is knowledgeable, flexible, efficient, and resilient. New policies and practices that foster learning and development, such as participation in cross-functional teams and competency-based approaches to leadership development, will be encouraged. The agency will continue to promote diversity and ensure that the workforce reflects the national workforce. It will improve career opportunities for women and minorities by eliminating any artificial barriers to advancement and full contribution by all employees. Alternate approaches to a performance management system will be evaluated and steps will be taken to link performance to the Department's strategic goals. The use of awards and recognition for innovation, cost-cutting, and customer service will be encouraged.

CUSTOMER SERVICE

NHTSA will create a customer-focused environment by encouraging communication, quality service, and innovation. NHTSA activities that address customer needs for information include the New Car Assessment Program, the Auto Safety Hotline, and the Internet Web site. These and other customer service activities will be improved to be more accessible and useful to customers. Using published customer service standards as a benchmark, the agency will use feedback from surveys, letters, and other means to improve service delivery.

RESEARCH AND TECHNOLOGY

The agency is committed to enhancing its research agenda through intermodal planning and cooperation on useful technological innovations, partnerships, research and education. The agency will participate in the development of an integrated transportation R&D plan for the Department. It will contribute to meeting the goals of the National Science and Technology Council Committee on Transportation through research on information infrastructure issues for smart vehicles and operators, accessibility for aging and transportation-disadvantaged populations, and next-generation motor vehicle designs. The agency will foster cutting-edge research in human performance and behavior by developing innovative research tools that offer new opportunities for collaboration with other Federal agencies, institutes of higher learning, and the private sector.

INFORMATION TECHNOLOGY

The agency uses information technology to improve mission and process performance by employing systems that are secure, reliable, compatible, and cost effective. It will take actions to reduce the paperwork burden on the public, expand access to data, and undertake internal improvements to improve information technology work processes. The agency will continue to take advantage of new tools such as the Internet and teleconferencing to improve communication and information exchange between its partners and the public. It will insure that existing IT systems are year-2000 compliant.

RESOURCE AND BUSINESS PROCESS MANAGEMENT

NHTSA will foster innovative, sound business practices that ensure all operational programs provide the best service at the least cost to meet the public need. These practices are needed to ensure that its resources are used in ways that best advance its goals. The agency will build on recent efforts and continue to encourage the adoption of continuous improvement practices in all aspects of its operations. The agency will develop and use an array of internal measures that provide a balanced evaluation of progress towards improving the quality, timeliness, cost and productivity of work processes. It will continue to improve by focusing on improvements to internal administrative processes for budgeting, acquisition and grants, and regulatory management.

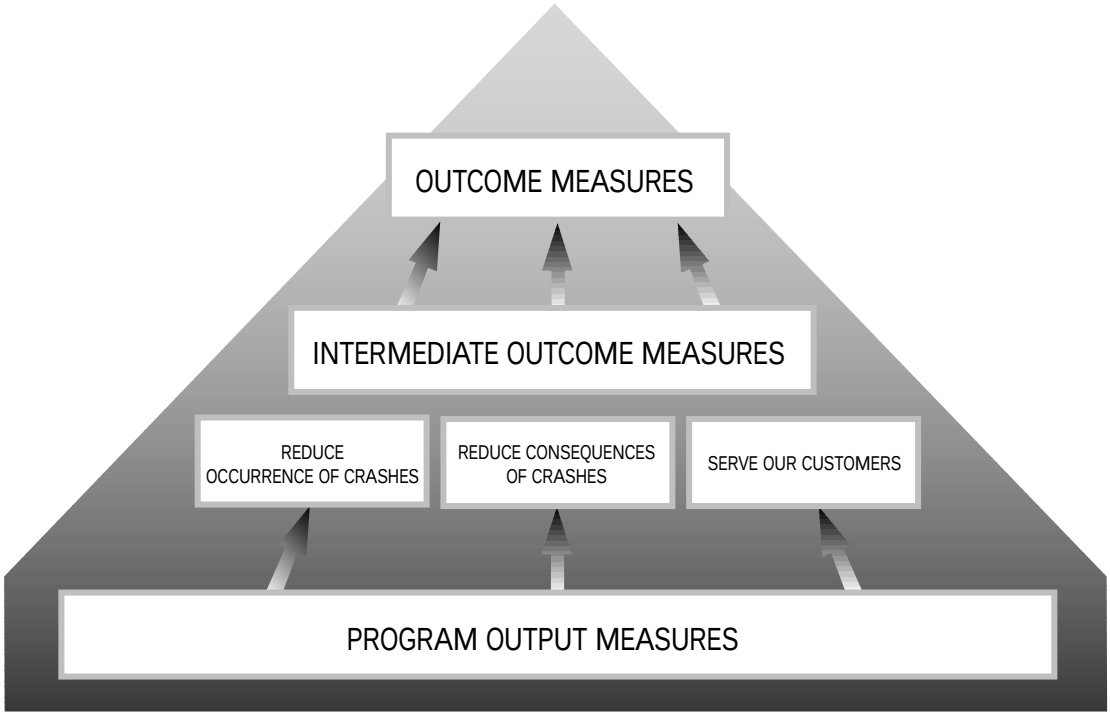
APPENDIX A – GPRA IMPLEMENTATION

The Government Performance and Results Act of 1993 requires Federal agencies to become more accountable to the American public. NHTSA's implementation of GPRA is demonstrated within this strategic plan. This appendix describes in greater detail the agency's views on performance measurement, how NHTSA coordinates with other Federal agencies, and a schedule of significant upcoming program evaluations.

Since 1994, NHTSA has been a pilot agency for implementing GPRA and has produced annual performance plans and reports. It was named one of only 10 "exemplar" pilots because of its use of outcome-oriented measures. The agency was able to achieve this recognition because it has invested significant resources in data collection and analysis. In addition, the agency has integrated performance planning with its budget process and linked program measures to intermediate outcomes and the agency's overall safety outcomes.

PERFORMANCE MEASURES

The agency uses a three-level hierarchy of measures to assess its performance. NHTSA tracks these measures annually through its performance plans and reports. The agency has transformed the budget into a performance-based document by integrating the outcome measures of the performance plan with the output measures of the programs.



At the top of the hierarchy are overall outcome measures. These are measures that NHTSA can influence but over which it does not have control, such as total fatalities and injuries.

The second level, intermediate outcomes, are measures such as safety belt use rates. While these are still outcome-oriented, they are parts of the overall agenda to help NHTSA achieve its outcome measures. There are three categories of intermediate outcome measures:

- **Reduce the Occurrence of Crashes:** The most important function of the agency is to prevent a crash from happening. This is often referred to as crash avoidance (or "pre-crash" in the Haddon Matrix). The agency has programs in place to help accomplish this, such as vehicle safety standards for braking and lighting, Don't Drink and Drive campaigns, Intelligent Vehicle Initiative research, compliance testing and defects investigation.
- **Mitigate the Consequences of Crashes:** If a crash does occur, the agency strives to reduce the severity and increase the survivability of the event. This agency refers to this outcome as crashworthiness (or "crash" in the Haddon Matrix). This outcome is accomplished through actions such as encouraging seat belt and helmet use, vehicle safety standards for impact protection, crashworthiness research, compliance testing and defects investigation.
- **Serve Our Customers:** NHTSA's customers are the American public. The agency has numerous programs aimed at helping the public. People can call the toll free Auto Safety Hotline to receive motor vehicle safety information, report a suspected safety defect, or to ask how to best fit their child safety seat into their car. The NCAP crash tests new cars to assess their relative crashworthiness. It classifies the results using an easily understandable 5-star rating system. NCAP disseminates this information in its popular *Buying a Safer Car* brochure. The National Center for Statistics and Analysis (NCSA) publishes fatality, injury, and crash data and responds to requests for specific data on crashes, injuries, and fatalities. The agency also maintains a highly successful World Wide Web site that helps customers find announcements, download agency publications, and search for recall information. It also includes a section for children (the Kids page).

Third-level measures are the program performance measures. These are measures that programs can more easily control, such as the length of time it takes to complete a rulemaking action. Each of the major programs in the agency's budget includes program performance measures and their link to intermediate outcome and overall outcome measures.

The following table indicates how each program area in NHTSA's budget contributes to the strategic goals of DOT and the intermediate outcomes of the agency. The intermediate outcomes influence overall outcomes to help reduce the number of fatalities and injuries. These measures enable the agency to track the performance of its programs.

NHTSA Programs

Operations and Research	DOT Strategic Goals					
	Safety			Mobility	Economic Growth & Trade	Human & Natural Environment
	Reduce Occurrence of Crashes	Reduce Consequences of Crashes	Customer Services			
Administrative Expenses	X	X	X	X	X	X
Safety Performance Standards						
Rulemaking Support	X	X		X	X	
New Car Assessment Program		X	X			
Consumer Information			X			
Fuel Economy Programs						X
Theft Programs					X	
Safety Assurance						
Vehicle Safety Compliance	X	X				
Auto Safety Hotline			X			
Defects Investigation	X	X				
Odometer Fraud					X	
Highway Safety Programs						
Alcohol Program	X					
Drugged Driving Programs	X					
Pedestrians & Bicycles	X	X				
Motorcycle Programs	X	X				
National Occupant Protection Program		X				
Safe Communities	X	X				
Patterns for Life	X	X				
Police Traffic Services	X					
Emergency Medical Services		X				
Records and Licensing	X					
General Administration						
Program Evaluation	X	X				
Strategic/Program Planning			X			
Economic Analysis	X	X			X	
Research And Development						
Crash Avoidance Research	X					
NCSA			X			
Biomechanics Research Center		X				
PNGV	X	X			X	X
Safety Systems		X		X	X	
VRTC	X	X				
ITS Research	X					
NADS	X					
Highway Traffic Safety Grants						
Section 402	X	X	X			
Alcohol Incentives	X		X			
Occupant Protection Incentives		X	X			
Drugged Driving Incentives	X					
National Driver Register	X		X			

CROSS-CUTTING ACTIVITIES IN THE AREA OF HIGHWAY SAFETY

NHTSA works in partnership with many other Federal agencies to help achieve its goals. The table below highlights the major areas of cross-cutting activity that contributes to NHTSA and DOT performance goals.

CROSS-CUTTING ACTIVITIES IN THE AREA OF HIGHWAY SAFETY

DEPARTMENT/AGENCY	FUNCTION
Commerce	Motor Vehicle Safety Harmonization
Consumer Product Safety Commission	Bicycle Helmet Use; Safety Recalls
Defense	National Transportation Biomechanics Research Center
Education	Statement Of Commitment On Safety Issues; School Bus Safety
Energy	Fuel Economy; Alternative Fuel Vehicles
Environmental Protection Agency	Fuel Economy; Alternative Fuel Vehicles
Federal Emergency Management Agency	Federal Inter-Agency Committee on Emergency Medical Services
Health and Human Services	Healthy People 2000/2010; Injury Prevention; Emergency Medical Services; Sleep Disorders
Interior	Traffic Safety Outreach; Implementation of Tribal Safe Community Program and Native American Injury Prevention Coalition Program; Section 402 Grants
Justice	Motor Vehicle Theft Prevention; Motor Vehicle Odometer Fraud; Safety Recalls
Labor	Federal Employee Seat Belt Program
National Aeronautics and Space Administration	Advanced Air Bag Safety
National Academy of Sciences	NHTSA/FHWA Speed Limit Program; Numerous Safety Studies
National Transportation Safety Board	Highway Crash Investigation; Safety Recommendations
State	Motor Vehicle Standards Harmonization
U.S. Trade Representative	Motor Vehicle Standards Harmonization

PROGRAM EVALUATIONS

Evaluations play an integral part in NHTSA's planning and performance measurement system. The agency has been conducting evaluations of its motor vehicle safety standards since 1970. Managing for outcomes has placed a renewed emphasis on program evaluation within DOT and NHTSA, and the agency has an ambitious evaluation program planned.

These are some of the evaluations that NHTSA plans to conduct during the next few years:

- **Evaluation of Safe Communities Demonstrations:** This study will evaluate the effect on traffic crash fatalities and injuries of the Safe Communities Program approach (anticipated completion 2000).
- **Section 410 Highway Safety Grant Program:** The effect of the Section 410 Alcohol Incentive Grant program on state alcohol-related crash rates will be evaluated (anticipated completion 1999).
- **Section Presidential Seat Belt Initiative:** NHTSA plans to evaluate the success of the Presidential Initiative in raising seat belt use nationwide (anticipated completion 1999).
- **Highway Safety Assessment:** NHTSA is analyzing the accomplishments of the highway safety program in ten states and the contribution of Federal grants towards those accomplishments (anticipated completion 1998).
- **Auto Theft and Recovery:** This evaluation will determine the effectiveness of parts marking and anti-theft devices in reducing thefts and increasing vehicle recoveries and assess the effects of the anti-theft acts of 1984 and 1992 (anticipated completion 1998).
- **Odometer Fraud:** NHTSA is estimating the incidence of odometer rollback in used passenger cars sold in the United States and assessing state and Federal programs to combat odometer fraud (anticipated completion 1999).
- **Motor Vehicle Content Labeling:** The agency will study trends in U.S.-Canadian content in new cars and light trucks; find out if purchasers peruse, understand and react to the labels; and study the response of manufacturers and dealers to the regulation (anticipated completion 1999).
- **3-Point Belts for Back Seat Occupants:** This evaluation will determine whether the shift from lap belts to 3-point belts has significantly reduced fatality and injury risk for back seat occupants, especially abdominal injuries in frontal crashes (anticipated completion 1999).

APPENDIX B – NHTSA'S REPORT CARD

NHTSA's Programs are Highly Successful, as demonstrated by the traffic fatality rate's being its lowest on record at 1.7 deaths per 100 million miles of travel in 1996. This is a 32 percent decrease from the rate of 2.5 in 1986. If the rate from 30 years ago had persisted in 1996, more than 130,000 people would have died from motor vehicle crashes instead of the 41,907 deaths actually reported.

Alcohol-Related Traffic Fatalities have decreased significantly. During the past 10 years, alcohol traffic deaths declined by almost 30 percent (from 24,045 deaths in 1986 to 17,126 in 1996).

Youth Alcohol Safety experienced dramatic improvements during the past two decades. Minimum drinking age laws are credited with reducing 18 to 20 year old driver deaths by 13 percent and saving over 16,000 lives.

Seat Belt Use increased from 37 percent in 1986 to 68 percent in 1996. Buckling up saves 9,500 lives in America each year.

Child Safety Seats are the most effective occupant protection device in motor vehicles today. Unfortunately, non-use and misuse are estimated at 80 percent. Parents and other care givers often consider child seats inconvenient, overly expensive, and difficult to install. NHTSA has proposed to require Universal Child Restraint Attachments (UCRA) in all passenger vehicles to help solve this problem.

Air Bags are in 68 million vehicles and have saved over 2,700 lives. NHTSA has a comprehensive program to realize the full life-saving potential of air bags and pave the way for early introduction of advanced air bag systems.

Safe Communities has helped the agency create non-traditional partnerships with the health and business communities as well as expand alliances among traditional traffic safety advocates such as law enforcement officers. Safe Communities focuses on injury prevention at the local level where it can be most effectively implemented.

For additional information, please contact:

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Copies of agency documents may be obtained electronically via NHTSA's Home Page at the following Internet address:
http://www.nhtsa.dot.gov

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**National Highway
Traffic Safety
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